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Agricultural Memorandum No. 297

Forecasting the hatch of Nematodirus Larvae from 1ft earth Temperature data

L. P. Smith

Ag. Mem. No. 295 showed a relationship between the date of 10% hatch of nematodirus and the mean March 1ft earth temperature. As some hatches occur in March this is too late for forecasting purposes.

Relationships were therfore sought with:-

1. Mean 1ft earth temperature March 1st-15th

   No. of days after March 31st = $197 - 4.8\ T_{15}$

2. Mean 1ft earth temperature March 1st-20th

   $195 - 4.7\ T_{20}$

3. Mean 1ft earth temperature March 1st-25th

   $197 - 4.75\ T_{25}$

4. Mean 1ft earth temperature March 1st-31st

   $193 - 4.65\ T_{31}$

The last two formulae apply only to hatches after the 25th and 31st respectively.

The formulae were established over nine years between 1955 and 1967.

Tests were made on 1968 (Cockle Park data) and 1969 (Durham data)

/Results

Results

Year	Actual 10% date		Forecast 10% date made on			
	Field	Experiment	March 15	March 20	March 25	March 31
1955	Apr 25		April 30	April 30	April 30	April 27
1956	Apr 12		April 14	April 17	April 14	April 11
1957	Mar 22 Mar 28	Mar 22	March 28	March 25	-	-
1958	Apr 24		April 22	April 26	April 27	April 25
1959	Mar 28		March 29	April 1	April 1	-
1964	Apr 18		April 9	April 14	April 13	April 13
1965	Apr 25	Apr 28	April 26	April 23	April 22	April 18
1966	Apr 6	Apr 9	April 1	April 4	April 4	April 6
1967	Mar 31	Apr 1	April 2	April 3	April 1	April 1
1968	Mar 22 Apr 2	Apr 2	April 14	April 15	April 14	April 9
1969	Apr 20 Apr 23	Apr 21	April 25	April 28	April 29	April 26

The mean errors are about half a week (3 to $3\frac{1}{2}$ days); allowing this tolerance, we have 7 correct, 2 early, and 2 late.

Any comments or suggestions on this paper should be sent to the author.

Meteorological Office
Bracknell
Berkshire

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